

In the Claims:

Please amend Claims 1-4 and 12, and add new Claim 14 as indicated below.

The status of all pending claims is as follows:

1. (Currently Amended) A magnetic recording and/or reproducing apparatus comprising:

equalization means for equalizing a signal sequence which is reproduced from a magnetic recording medium and outputting an equalized waveform; and

conversion means for converting the equalized waveform into a maximum likelihood sequence by carrying out metric calculation based on average values of the equalized ~~waveform~~ ^{level} waveform in vicinities of a positive signal level, a negative signal and a zero signal level.

5. 2. (Currently Amended) The magnetic recording and/or reproducing apparatus as claimed in ~~claim 1~~, ⁴ claim 12 further comprising:

~~error~~ an error detection and correction means ~~for carrying~~ section configured to carry out an error detection and an error correction with respect to the maximum likelihood sequence using a parity bit,

said error detection and correction means ~~means~~ section carrying out the error correction by comparing a sequence which is obtained by convolution of the maximum

likelihood sequence and the average values of the equalized waveform, with the equalized waveform.

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(Currently Amended)

The magnetic recording and/or reproducing

apparatus as claimed in claim 1, further comprising:

~~memory means for storing~~ a memory section configured to store a conversion

table which includes the average values of the equalized waveform.

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(Currently Amended)

The magnetic recording and/or reproducing

apparatus as claimed in claim 3, further comprising:

~~control means for updating~~ a control unit configured to update said conversion

table at an arbitrary timing.

5-11. (Cancelled)

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(Currently Amended)

A magnetic recording and/or reproducing

apparatus comprising:

an equalization section ~~which carries~~ configured to carry out an equalization

with respect to a signal sequence reproduced from a magnetic recording medium, and ~~outputs~~

to output an equalized waveform; and

a conversion section ~~which converts~~ configured to convert the equalized waveform into a maximum likelihood sequence by carrying out metric calculation based on average values of the equalized ~~waveform~~ waveform in vicinities of a positive signal level, a negative signal level and a zero signal level.

13. (Cancelled)

14. (New) A magnetic recording and/or reproducing apparatus comprising:

an equalization section configured to equalize a signal sequence which is reproduced from a magnetic recording medium and to output an equalized waveform;

a conversion section configured to convert the equalized waveform into a maximum likelihood sequence by carrying out a metric calculation based on average values of the equalized waveform; and

an error detection and correction section configured to carry out an error detection and an error correction with respect to the maximum likelihood sequence using a parity bit,

said error detection and correction section carrying out the error correction by comparing a sequence which is obtained by convolution of the maximum likelihood sequence and the average values of the equalized waveform, with the equalized waveform.